UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,517	02/10/2004	Woo-Hyuk Choi	8733.345.10-US	8692

30827 7590 10/09/2007

MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER	
NGUYEN, DUNG T	

ART UNIT	PAPER NUMBER
2871	

MAIL DATE	DELIVERY MODE
10/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/774,517	WOO-HYUK CHOI	
	Examiner	Art Unit	
	Dung Nguyen	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-14 and 16-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-14 and 16-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 June 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/17/2007 has been entered.

2. Applicants' amendment dated 06/21/2007 has been received and entered. By the amendment, claims 11-14, 16-21 are now pending in the application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 11-14 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al, US Patent No. 5,166,085, in view of Kitazawa et al.., US Patent No. 5,920,082 and Applicant's admitted prior art (APA), figures 2 and 4.

Regarding claims 11-14, Wakai et al. disclose a method of forming a thin film transistor substrate (figure 8) comprising the step of forming:

. a substrate (101);

. a gate electrode (102);

. a gate insulating layer (103);

. an active layer (104);

. a source electrode (106b), it should be noted that "drain electrode" and "source electrode" are conventionally used interchangeably;

. a drain electrode (107b) having a bent shape and having a first side facing the source electrode and a second side;

. a protection layer (118) covers the source electrode only and the first side of the drain electrode;

. a pixel electrode (54) separated from the protection layer (118) as well as overlapped and contacted with the second side of the drain electrode (107b) and gate insulating layer (103).

Wakai et al. neither disclose the step of forming the pixel electrode by using a back exposure nor the step of forming a gate pad, a gate pad electrode as well as a data pad and a data pad electrode having pad holes therein.

Kitazawa et al. disclose a pixel electrode can be formed by using a back exposure (figure 3, col. 5, lines 17-30 30). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ a pixel electrode by using a back exposure as shown by Wakai et al. in order to reduce and self alignment of the pixel electrode to signal lines further improve an aperture ratio of an LCD device (col. 6, lines 10-13).

APA's figures 2 and 4 do disclose that a gate/data line (21/24) having a gate/data pad (60/62) electrically contacting a gate/data pad electrode (62/60) through a gate/data pad hole (21/23) as claimed. Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ the Wakai et al. device having a gate/data pad connected to

gate/data line as shown by APA because it is a common practice in the LCD art in order to connect an LCD device to external circuit through gate/data pad electrode.

Response to Arguments

5. Applicant's arguments filed 06/21/2007 have been fully considered but they are not persuasive.

Applicant contends that the Applicant's related art, figures 2 and 4, is not an admission that may be used against Applicant (amendment, page 6); however, as stated in the previous office action, Applicant provides no support for the such contention. In addition, such step forming the gate/data pad having pad holes is known and common in the LCD art as evidence from cited reference Lim, US 7,145,539.

Applicant also stated that APA's figures 2 and 4 fails to teach "forming a gate pad and a data pad, ... having a pad hole therein". The Examiner is not convinced by this argument since the same is true of the APA's gate/data pad, as clearly shown in figure 2 and 4. It should also be noted that since the method of manufacturing the device is merely a list of forming each component and each component must be formed to make the device, the method of manufacturing would be inherent to the device. Therefore, according to figures 2 and 4, such gate/data pad with the pad holes would be inherently formed in the APA's display as claimed as well.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN
10/01/2007

/Dung T. Nguyen/
Dung Nguyen
Primary Examiner
Art Unit 2871